

## Health Insurance Coverage and Take-Up: Lessons from Behavioral Economics

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**Context:** Millions of uninsured Americans ostensibly have insurance available to them—many at very low cost—but do not take it up. Traditional economic analysis is based on the premise that these are rational decisions, but it is hard to reconcile observed enrollment patterns with this view. The policy prescriptions that the traditional model generates may thus fail to achieve their goals. Behavioral economics, which integrates insights from psychology into economic analysis, identifies important deviations from the traditional assumptions of rationality and can thus improve our understanding of what drives health insurance take-up and improved policy design.

**Methods:** Rather than a systematic review of the coverage literature, this article is a primer for considering issues in health insurance coverage from a behavioral economics perspective, supplementing the standard model. We present relevant evidence on decision making and insurance take-up and use it to develop a behavioral approach to both the policy problem posed by the lack of health insurance coverage and possible policy solutions to that problem.

**Findings:** We found that evidence from behavioral economics can shed light on both the sources of low take-up and the efficacy of different policy levers intended to expand coverage. We then applied these insights to policy design questions for public and private insurance coverage and to the implementation of the recently enacted health reform, focusing on the use of behavioral insights to maximize the value of spending on coverage.

**Conclusions:** We concluded that the success of health insurance coverage reform depends crucially on understanding the behavioral barriers to take-up. The take-up process is likely governed by psychology as much as economics,

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and public resources can likely be used much more effectively with behaviorally informed policy design.

**Keywords:** Health insurance, behavioral economics, uninsured, health policy.

THE PATIENT PROTECTION AND AFFORDABLE CARE ACT—health care reform—enacts a sequence of policies that will fundamentally change the structure of health insurance markets in the United States in the coming years. Among the central elements of this reform are provisions to expand health insurance coverage. In 2010, roughly 50 million people in the United States lacked health insurance (DeNavas-Walt, Proctor, and Smith 2011), and the Congressional Budget Office forecasts that when fully implemented, the new law will reduce this number to 23 million (CBO 2010). These increases in coverage will come through two channels: first, greater private insurance coverage driven by subsidies, an individual mandate, and insurance market regulations that improve affordability; and, second, greater public insurance coverage driven by expansions in eligibility under Medicaid and the Children's Health Insurance Program (CHIP).

Both the logic and the potential blind spots inherent in this approach to expanding health insurance coverage come straight out of traditional economic theory. The standard economic approach identifies a particular role for public policy in health insurance coverage when society's interests do not align with private interests and market outcomes, and it suggests a particular set of policy responses. To a first approximation, standard economic theory focuses on the role of prices and information in determining coverage. When society has an interest in redistributing to low-income or sick populations, or addressing issues of affordability, policy can manipulate prices or target transfers, such as through subsidies or public programs, to move toward optimal coverage. Or when problems of information lead health insurance markets to not function smoothly because of, for example, adverse selection or moral hazard, policies can tackle the coverage consequences of those issues through regulations or policies such as mandates.

But while prices and information are undeniably key factors for understanding and achieving socially optimal health insurance coverage, they alone seem insufficient to explain observed patterns of coverage. There

is mounting evidence that a third factor, the psychology of individual decision making, plays a central role in driving coverage outcomes. The standard approach adopts, albeit often implicitly, the usual assumption that decisions to purchase or take up health insurance simply reflect a rational calculation by perfectly optimizing individual agents. But findings from behavioral economics and psychology indicate that individuals may have difficulty implementing the optimal choices that would be in their private interest (even if they did not differ from broader social goals). This may add a new dimension to the policy challenges associated with coverage. For example, it raises the possibility that some of the uninsured—such as those who are eligible for public coverage at little to no direct cost—are behaving in ways that are privately suboptimal. Moreover, and crucially, behavioral factors might interact with traditional economic forces such as prices and information to complicate both their implementation and the ultimate effects. For example, decision-making errors that are correlated with health status might affect the extent of adverse selection and therefore affect the level and distribution of coverage through that channel.

Behavioral economics provides a way to think about the drivers of insurance take-up and coverage and thus the effectiveness of different policies aimed at covering the uninsured. Built on a foundation of psychological research and experimental evidence, behavioral economics has cataloged a number of persistent deviations from the traditional model of economic rationality (DellaVigna 2009; Rabin 1998). Findings include evidence of inconsistent decision making under uncertainty (Kahneman and Tversky 1979), procrastination and limited willpower (Laibson 1997), and the influence of social contexts (Schultz et al. 2007).

Evidence from other policy domains suggests that a behavioral approach to the issue of health insurance take-up may yield productive insights (Bertrand, Mullainathan, and Shafir 2006). For example, studies of employee participation in 401(k) plans have found that enrollment in such plans increases dramatically when employees are enrolled automatically (Madrian and Shea 2001). These findings led to legislative and regulatory changes to encourage the adoption of automatic enrollment in order to increase retirement savings. While researchers are increasingly bringing behavioral insights to bear on the specific questions related to health insurance and health care policy (Frank 2007; Kunreuther and Pauly 2005; Liebman and Zeckhauser 2008), a complete picture of

the role that behavioral factors play in insurance coverage has not yet emerged.

This article is a primer for considering issues in health insurance coverage from a behavioral economics perspective. We begin with a brief overview of empirical patterns of health insurance coverage and outline the standard approach to understanding program take-up. We then review relevant evidence on decision making from the behavioral literature. Finally, we discuss some of the key policy challenges associated with health insurance coverage, as well as matters of policy design, through a behavioral lens.

## Patterns in Coverage and Imperfect Take-Up

Roughly one in six people in the United States lacks health insurance. The evidence suggests that the principal problem is affordability, as the average annual health insurance premium for an employer-sponsored family policy in 2011 was more than \$15,000 (Kaiser Family Foundation 2011). Because nongroup markets can be even more expensive, individuals and families with modest incomes who do not qualify for public programs can be priced out of coverage. Roughly two-thirds of the uninsured are in households with a below-median income (DeNavas-Walt, Proctor, and Smith 2011), and most uninsured individuals are adults, for whom public policies are not as generous. Accordingly, health care reform rightly focuses on affordability and measures to control the cost of coverage.

Factors besides income appear to contribute as well to the absence of insurance coverage, since a substantial share of the uninsured have access to public or private insurance—many at a very low cost. Recent estimates reveal that about 85 percent of eligible children without private coverage and about 50 percent of eligible adults without private coverage are enrolled in CHIP or Medicaid (Davidoff, Yemane, and Adams 2005; Kenney et al. 2011). Many of the uninsured are thus eligible for but not enrolled in these programs. Strikingly, of the nearly 7 million children lacking health insurance, approximately 65 percent are estimated to be eligible for Medicaid, CHIP, or both (Kenney et al. 2011).

This low take-up of public insurance that is virtually free to enrollees is particularly hard to explain using the traditional economic model.

Under these models, people compare the expected costs against the expected benefits of participation and take up the program whenever the benefits are higher.<sup>1</sup> In this model, the reason for low or imperfect take-up must be that the costs are larger than we realize or the benefits are lower than we think. One possible cost to participation is the transaction cost associated with learning about, applying for, and collecting benefits. There is some evidence of the impact of transaction costs on the take-up of health insurance. For example, lengthy applications and complex eligibility rules appear to depress enrollment in Medicaid (CMS 2011; Stuber et al. 2000), and assistance with enrollment can improve participation (Aizer 2007). The increase in Medicaid participation in accordance with family size is consistent with the fixed costs of enrollment (Currie 2000). Transaction costs also play a role in participation in CHIP (Bansak and Raphael 2006). But transaction costs often remain an unsatisfying explanation of imperfect take-up because they are usually small relative to estimates of program benefits.

A second possible unmeasured cost is the possible social stigma associated with participation in such programs (Moffitt 1983). Although individuals do report that Medicaid has subjectively stigmatizing elements, the subjective experience of stigma does not appear to be a major driver of program nonparticipation for health insurance programs (Stuber et al. 2000). There is evidence, however, that attitudes reflecting the stigma attached to welfare in general also are associated with lower Medicaid participation rates (Levinson and Rahardja 2004) but also that this stigma does not apply strongly to Medicaid itself (Stuber and Kronebusch 2004). Over time, as Medicaid has become less connected to Temporary Assistance for Needy Families (TANF), and as its association with the welfare system shrinks, any such effect is likely to grow only weaker.

On the other side of the equation, take-up could be low because the benefits are few. This may be particularly important for health insurance benefits that often are collected only after a need arises. In contrast with social programs that provide an immediate boost to welfare in the form of transfer of cash or in-kind benefits, enrollment in Medicaid or CHIP provides a benefit that is realized only if and when an individual needs medical care. As a result, eligible individuals may postpone enrolling in Medicaid while healthy, with the knowledge that they can enroll and receive benefits when they get sick or otherwise need treatment. The extent to which individuals actually engage in this type of strategic

TABLE 1  
Take-Up of Health Insurance by Source

Program	Take-Up (%)
Medicaid and CHIP	
Children 18 and under	85
Adults with children	54
Adults without children	48
Medicare Part A	99
Medicare Part B	96
Medicare Part D	93
Employer-sponsored insurance	81 to 84

*Sources:* Figures for Medicaid are from Davidoff, Yemane, and Adams 2005 and Kenney et al. 2011; for Medicare Parts A and B, Remler and Glied 2003; for Medicare Part D, Heiss, McFadden, and Winter 2006; and for employer-sponsored insurance, Fronstin 2007 and Kaiser Family Foundation 2011.

enrollment behavior is less clear. Even when conditional coverage decreases the benefits of enrolling before requiring acute care, individuals still seem to forgo the benefits of routine and preventive care through failure to enroll. For example, some women who could receive free prenatal care with Medicaid coverage fail to enroll (Cutler and Gruber 1997).

A comparison of Medicaid and CHIP with the other major public health insurance program, Medicare, is revealing. Table 1 compares take-up rates by source of insurance. Roughly 99 and 96 percent of qualifying individuals enroll in Medicare Part A (hospital) and Part B (physician), respectively (Remler and Glied 2003). A number of features of Medicare may contribute to this high take-up rate. Because eligibility for Medicare is not means related but is primarily gated at the age of eligibility (65), the take-up costs are very low (premiums in Medicare Part B are now means related, but eligibility for enrollment is not). There are no applications required to demonstrate eligibility and, presumably, little stigma associated with participation, although the enrollment process for disabled populations is quite different. Medicare Part D represents a hybrid case, in which some eligible individuals are enrolled only when they select a plan but others (such as those who are also eligible for Medicaid) can be automatically enrolled. Correspondingly, take-up in Part D is lower than for other parts of Medicare but higher than that for Medicaid. An estimated 93 percent of eligible individuals who did not already have drug coverage from other sources have taken up Medicare Part D (Heiss, McFadden, and Winter 2006; Levy and Weir 2009).

There is also suggestive evidence that even for the uninsured who do not qualify for public programs, private coverage is often available and affordable. The primary way in which individuals enroll in private insurance in the United States is through their employers, but the acceptance of these policies is far from complete. More than 80 percent of those offered insurance through an employer do accept it (Fronstin 2007; Kaiser Family Foundation 2011). Of those who decline, a majority report that other coverage is available to them, although roughly one-quarter state that they cannot afford the coverage (Fronstin 2007). Ultimately, although more than 25 percent of uninsured adults are offered insurance through their employer or the employer of a family member, they do not accept it (Clemens-Cope and Garrett 2006; Gruber and Washington 2005). It is, of course, possible that the monetary costs for private insurance exceed the rationally evaluated benefits. In 2011, the average annual premium for family coverage was \$15,073, to which the employee contributed an average of \$4,029 (Kaiser Family Foundation 2011).

Even here, puzzles remain. First, concluding that the premiums are simply unaffordable does not explain the observed lack of coverage. Evidence suggests that the policies available are in fact affordable to many who turn them down, with estimates suggesting that policies are affordable to between 25 and 75 percent of the uninsured (Bundorf and Pauly 2006; Levy and DeLeire 2008). Even among households with incomes of \$75,000 or more, 8 percent of individuals are uninsured, and these people represent nearly 20 percent of the uninsured (DeNavas-Walt, Proctor, and Smith 2011). Increasing subsidies and decreasing insurance premiums do improve take-up, but even large premium subsidies do not seem to induce everyone to participate—one set of estimates shows that even if employees' contributions were zero, roughly 10 percent of low-income workers would remain uninsured (Chernew, Frick, and McLaughlin 1997). Second, the standard models predict that the employer's share of health insurance premiums is ultimately borne by the workers themselves in the form of lower wages. Therefore, those who decline employer coverage are implicitly accepting a lower wage in the long run for no benefit.

The failure to take up health insurance poses serious health risks. Individuals who lack health insurance experience significantly worse health care outcomes by a wide variety of measures (Institute of Medicine 2009). Recent evidence from a large-scale, randomized controlled trial

suggested that Medicaid increases health care use, reduces financial strain, and substantially improves self-reported health relative to being uninsured (Baicker and Finkelstein 2011; Finkelstein et al. 2011). Children lacking health insurance receive less preventive care, experience more delayed care, and have more unmet health needs (Olson, Tang, and Newacheck 2005).

## The Psychology of Health Insurance Take-Up

This set of facts suggests that while affordability and standard factors explain some of the observed patterns of health insurance take-up, there is also substantial scope for considering other factors. In particular, a growing set of findings from psychology and behavioral economics research point to the possible role of deviations from perfectly farsighted, rational behavior in health insurance take-up. Allowing for these deviations can provide the basis for a more sophisticated model of choice that can improve our understanding of health insurance coverage—and thereby of the effectiveness of different policy levers designed to increase take-up and coverage.

The traditional economic analysis of health insurance coverage focuses on the role of market forces as well as market failures, typically leaving assumptions about individual decision making in the background. The standard assumption is that individuals optimally evaluate the costs and benefits of their health insurance options based on stable preferences and choose the option that benefits them the most, subject to their wealth and income constraints. The model assumes that people *know* what they want—that they perfectly calculate the expected costs and benefits. It also assumes that people can *do* what they want—that they have perfect focus and willpower.

A behavioral analysis brings these assumptions into the foreground and considers the role of individual decision making in health insurance coverage and take-up. The behavioral economics literature offers a number of ways in which the standard assumptions are at odds with actual behavior. For example, people may have difficulty forming and executing optimal choices because they either make mistakes or lack self-control. A number of well-established behavioral findings may be relevant to understanding health insurance coverage, and in some cases,

emerging research is finding direct evidence of these tendencies in the health insurance context.

### *Choice Overload and Complexity*

An illustrative finding from psychology is what is referred to as *choice overload*; that is, as the number of options in a choice set expands, people can become overwhelmed and thus choose nothing. Experiments in which individuals are given more choices show that they are less likely to make a purchase, which contradicts the standard assumptions (Iyengar and Lepper 2000). There is some evidence of this, for example, in retirement plans when the more options that employers offer, the less likely that employees are to participate (Huberman, Iyengar, and Jiang 2004).

The possibility that choice overload may depress health insurance take-up is clear. For example, the finding about retirement plan choices is quite similar to employer-sponsored health insurance choices. There is also some consistent, direct evidence from Medicare Advantage, whose enrollment rates first rise with the number of options but ultimately fall as the choices proliferate further (McWilliams et al. 2011). In Medicare Part D, surveyed seniors express a preference for fewer options (Rice, Hanoch, and Cummings 2010), but experimental evidence has not found a link between the number of choices in Part D and the probability of enrollment (Bundorf and Szrek 2010).

The specific case of choice overload relates to a more general finding in psychology that individuals are put off by difficult choices and in such situations sometimes seek to avoid choosing altogether (Tversky and Shafir 1992). Selecting a health insurance plan is complex, as is evident in the difficulties that individuals have in choosing plans optimally, as in Medicare Part D (Abaluck and Gruber 2011; Kling et al. 2012). One consequence of this complexity is that it may depress take-up as individuals put off choosing: “It’s too hard to choose—I’ll deal with this tomorrow.”

### *Lack of Understanding about Costs and Benefits*

If the complexity of the decision to insure does not discourage choosing outright, it might still affect take-up when it leads to a misunderstanding of the costs and benefits of coverage. Much evidence from a variety of domains shows that individuals misunderstand complex

price schedules (Liebman and Zeckhauser 2004). In some cases, people may fail to perceive some prices at all (Chetty, Looney, and Kroft 2009), which has direct implications for the take-up of social benefits. This is demonstrated, for example, in the finding that a tax credit for saving might be more popular when presented in a simpler manner (Duflo et al. 2006).

In the specific case of health insurance, a variety of factors may lead individuals to have difficulty correctly understanding the prices and costs. For example, it can be difficult for individuals to determine the true cost of premiums in an employer-sponsored plan (the new law changes this, however, by requiring employers to disclose the plan's full costs to workers) (Liebman and Zeckhauser 2008). People may also have difficulty figuring out the multiple dimensions of health insurance prices, including premiums and various cost-sharing provisions, to arrive at an accurate projection of expected costs. The impact on coverage will depend on the net effect of all these factors.

In addition, evidence indicates that knowledge of the health insurance programs themselves is sometimes limited in ways that can hamper coverage (Kenney, Haley, and Dubay 2001). For example, Currie and Gruber (1996) found that the take-up of Medicaid was higher for newly eligible women who had more experience with other welfare programs, possibly reflecting a poorer understanding of eligibility by those without such experience. Lack of awareness of the eligibility of newly eligible children and families also contributes to the imperfect take-up in CHIP (Currie 2006). There also is evidence that seniors with greater cognitive capacity were more likely to sign up for Medicare Part D (Levy and Weir 2009), thereby highlighting the role of cognitive constraints in take-up.

Finally, individuals may have difficulty arriving at an accurate, consistent, subjective evaluation of the benefits of insurance in reducing risk. This may stem from difficulties in forecasting the effects of future health outcomes on well-being (Loewenstein 2005; Ubel et al. 2005). People tend to overestimate the impacts of changes in health status on happiness, which could, conversely, increase take-up.

### *Misperceptions of Risk*

A special class of difficulty that individuals may have with the take-up decision is correctly evaluating the risks associated with various potential health outcomes. One of the most robust findings in behavioral

economics is that people have difficulty evaluating probabilities. For example, they tend to give too much weight to low probabilities and too little weight to high probabilities (Kahneman and Tversky 1979). Individuals also hold self-promoting biases with respect to risk assessment. For example, evidence shows that people tend to be overly optimistic and discount the likelihood of adverse outcomes (Weinstein 1980).

Misperceiving risks affects the decision to insure. Experimental evidence suggests that hypothetical insurance purchase decisions are sensitive to perceptions of risk (Johnson et al. 1993). The magnitude and direction of how these perceptions influence coverage in any particular case are ultimately empirical questions. Note, for example, that giving too much weight to small probabilities may cause individuals to be more likely to insure, whereas overoptimism may cause them to be less likely to insure. Both forces might apply in the case of the “young invincibles” (referring to the high rate of uninsured young adults), and it is unclear which would be expected to dominate. While much of the lack of coverage of this group is likely due to other factors, some evidence finds that a relatively high degree of risk tolerance plays a role (Holahan and Kenney 2008). Although a greater willingness to accept risk may simply reflect preferences, it may also be due in part to error-prone or biased risk perceptions.

### *Present Bias and Limited Self-Control*

Choice overload, lack of understanding, and misperceptions of risk can make it hard for people to *decide* optimally, but this is not the only, or even the most, significant type of behavioral barrier to optimal coverage: individuals might also find it difficult to *act* optimally or to implement their decisions. One set of behavioral findings, for instance, finds evidence that people have limited willpower and make choices that are inconsistent over time. People sometimes postpone activities with immediate costs and tend to give too much weight to losses and gains in the present versus similar losses and gains in the future (Laibson 1997). This type of present-biased preference implies that people will delay incurring costs even if doing so will reduce their welfare in the long run (O'Donoghue and Rabin 1999).

Time inconsistency and present bias affect the health insurance take-up decision. Individuals with time-inconsistent preferences may be

myopic or given to procrastination. This may decrease health insurance take-up because premium costs incurred in the present may weigh relatively heavily compared with benefits that may accrue, if at all, only in the future. Evidence that consumers are more responsive to premiums, which are paid in the near term, than to expected levels of cost sharing, which are incurred later, is consistent with present bias (Abaluck and Gruber 2011).

### *Susceptibility to Channel Factors*

A closely related set of findings in psychology and behavioral economics shows that human behavior is influenced by a variety of minor contextual cues, or “channel factors,” in which the decisions are made (Lewin 1951). These contextual factors can channel behavior toward or away from a particular decision outcome. The result is that small, seemingly insignificant costs, sometimes referred to as *bassle costs*, may have a bigger impact on decisions than the standard model would suggest (Bertrand, Mullainathan, and Shafir 2006). For example, automatic enrollment in employer-sponsored retirement plans dramatically increases take-up (Madrian and Shea 2001).

For health insurance coverage, the key implication of channel factors is that reducing complexity, providing information, and working to promote understanding of health insurance options may be only a partial solution to increasing take-up as long as there are barriers, even very minor ones, to following through on the intention to enroll. This type of behavioral factor helps explain the generally disappointing results of information campaigns, such as that conducted to increase the utilization of the Medicare Savings Programs (GAO 2004). Conversely, the relative power of enrollment assistance is likely due in part to the way it relaxes not the information constraints that individuals face in making decisions, but the constraints they face in taking action based on those decisions (Aizer 2007).

### *Reference Dependence and Framing*

Even in the absence of barriers to take-up and when individuals correctly understand the terms of the decision, behavioral economics indicates that individual preferences may not be stable. One such finding is that

individuals hold reference-dependent preferences and, in particular, are loss averse—that is, they are more motivated to avoid losses than to secure gains (Kahneman and Tversky 1979). As a result, people can be influenced by the way their options are framed relative to a reference point. In addition, reference dependence can lead to status quo bias; that is, people disproportionately prefer to stick with what they have.

The usual framing for insurance—a certain loss of premiums traded for an uncertain gain from coverage—may encourage risk taking and discourage take-up (Slovic et al. 1977). A policy like an individual mandate, for example, might derive some power from reversing this frame, to the extent it emphasizes the certain loss associated with noncompliance. Status quo bias has been demonstrated in health insurance (Handel 2011; Samuelson and Zeckhauser 1988). The main consequence for take-up is to reinforce the power of the institutional features that determine the status quo. The relatively high coverage rates for employer-sponsored insurance are likely due in part to such factors.

### *Influence of Social Comparisons*

Another deviation from the simplest standard economic model is evidence that people may not always be solely self-interested. They also care about the welfare of others, fairness, and social norms (Andreoni and Miller 2002; Kahneman, Knetsch, and Thaler 1986). In turn, perceptions of fairness or social norms can influence decision making and behavior. In other domains, research has found that making social norms salient, such as by comparing the behavior of individuals with that of their neighbors, can encourage prosocial behaviors (Schultz et al. 2007).

There is some evidence of these effects in health insurance coverage. For example, in the employer context, Sorenson (2006) found evidence consistent with social influences in plan choice. One implication of social comparison influences on health insurance coverage is that increases in coverage may be self-reinforcing at the societal level—as more and more people take up coverage, the norm of having health insurance may become stronger and more influential. Similarly, if coverage mandates engage and reinforce social attitudes that encourage take-up, they may be more effective than the monetary penalties alone would suggest. This is true in other contexts as well, such as with income tax compliance (Frey and Torgler 2007).

## Behavioral Economics and Health Policy

Even with limited direct evidence on the behavioral dimensions of health insurance coverage, we can begin to integrate lessons from behavioral economics into thinking about health care policy. Insights from behavioral economics not only yield new insights into the effectiveness of different policy levers but also perhaps different roles for public policy altogether. Even when the current state of knowledge is insufficient to permit firm conclusions, a behavioral perspective can identify those theoretical implications and features of policy that deserve reexamination and empirical investigation.

Incorporating a behavioral view of health insurance take-up can have wide-ranging policy implications. To the extent that society seeks to expand coverage, either in general or in targeted groups, insights from behavioral economics can be used to design policies that meet those goals more effectively and efficiently. This is true for both public programs, such as Medicaid and Medicare, and private insurance, either through employer-sponsored plans or in nongroup markets. Such insights can also inform the implementation of policies in the Affordable Care Act.

In addition to having implications for policy design, behavioral insights may also change our understanding of the nature of the underlying problems that policy seeks to address. For example, if individuals with access to employer-sponsored insurance fail to take up coverage owing to procrastination or misjudgment of risk, this represents a different type of problem for policy than if the reasons were, say, affordability or selection. In this way, a behavioral perspective can improve the capacity of policy to reach optimal levels of coverage and also refine our understanding of the optimal level of coverage that policy should seek.

### *Behavioral Economics and the Rationale for Public Policy*

The traditional economic framework for evaluating the role of policy in health insurance coverage focuses on policies that remedy market failures or address distributional concerns, allowing that even the privately optimal decisions of individuals may result in socially suboptimal outcomes. A behavioral perspective allows that individual decision making may itself fail to be optimal, and it considers how this adds a new type

of problem for policy as well as how failures of decision making and market failures interact. This has implications for how we understand both the proper role of policy in addressing the level of health insurance coverage and the mix of who is and is not covered.

*Nudging.* The new dimension for the policy problem of imperfect health insurance coverage is the possibility that some individuals may hurt themselves when they fail to carry insurance. Behavioral economics indicates that individuals may choose privately suboptimal levels of coverage by misjudging risk, being susceptible to context and framing, or exhibiting failures of self-control. To the extent that low take-up is due not just to a rational consideration of costs and benefits but also to some combination of behavioral tendencies, policies encouraging health insurance coverage may improve welfare even if judged purely by the private welfare of those individuals themselves. This is the logic that identifies the potentially welfare-improving properties of what Thaler and Sunstein (2008) call *nudges*: behavioral policy interventions that help people help themselves.

*Selection.* In addition to creating a new dimension for the policy problem, behavioral tendencies interact with the traditional sources of problems in health insurance markets. First, the problem of adverse selection may be more or less severe when individuals are imperfect optimizers. In the standard model, adverse selection results when people have private information about their health status (Arrow 1963). The result can be a weakening or even a failure of health insurance markets because the ability to pool risk is impaired. In the behavioral framework, however, people may neither correctly evaluate their health risks nor act rationally—which could work to either moderate or exacerbate the degree of adverse selection in health insurance markets (Esponda 2008; Fang, Keane, and Silverman 2008; Sandroni and Squintani 2007). Behavioral models in which these tendencies diminish adverse selection are consistent with some evidence. For example, the tendency of individuals to stick with default plans can mitigate adverse selection (Handel 2011).

*Free Riding.* A second rationale for public policy in the rational agent model is the possibility of free riding (Coate 1995). If society has a strong preference that vulnerable populations not be refused life-saving medical care and provides that care free of charge to those without resources or insurance, that will create an incentive to go without insurance. While this might be privately optimal, it also may be socially optimal to provide or even require everyone to have health insurance. Behavioral factors may,

however, mitigate the tendency to free ride. This may be an area where the impact of social norms is particularly important. If free riding is perceived as antisocial behavior, the norm would encourage insurance. As with the impact of behavioral tendencies on adverse selection, whether behavioral tendencies generally strengthen or weaken the need for policies to address free-rider problems is ultimately an empirical question.

*Targeting.* Finally, in practical terms, policy is concerned not just with getting the right level of coverage but also with targeting coverage to particular groups. Policies that seek to expand coverage through public programs or subsidies often target scarce resources to those most in need. The value of enrollment in Medicaid varies substantially across the eligible population owing to heterogeneity in health status, family composition, and income, among other factors. The standard model suggests methods for targeting efficiently that may not hold, however, in a behavioral model. For example, a difficult enrollment process can serve as an efficient screening mechanism in the traditional model, discouraging those for whom the need for the program is low. But a behavioral approach indicates that hurdles of this type could have unintended or perverse effects, discouraging people for whom the program holds great benefits if they are particularly sensitive to the associated hassle costs. Evidence of inefficient screening in a public health benefit is consistent with this possibility (Diehr et al. 1996).

## Behaviorally Informed Policy Design

Insights from behavioral economics can inform the design of policies that seek to encourage health insurance take-up. Policies aimed at encouraging health insurance coverage fall into two broad categories: those that encourage take-up in private markets, such as that provided by employers and in private nongroup markets, and those that encourage take-up of publicly provided insurance, such as Medicare, Medicaid, and CHIP.

### *Private Health Insurance Coverage*

Until recently, the main policy instrument for promoting coverage in private health insurance markets was the tax exclusion of employer-sponsored insurance. Other instruments include subsidies to insurance

purchases in nongroup markets, such as those to be implemented under the Affordable Care Act (ACA), along with the development of health insurance exchanges or purchasing cooperatives. The ACA adds an individual mandate to obtain coverage, which Massachusetts has already used as part of a reform that lowered its uninsurance rate to 2.7 percent from 6.4 percent before the reform (Massachusetts Division of Health Care Finance and Policy 2010).

*Employer-Sponsored Insurance.* Roughly 60 percent of nonelderly Americans receive private health insurance coverage through their employer (DeNavas-Walt, Proctor, and Smith 2011). The premiums on employer-sponsored insurance are not taxed, which encourages coverage; that is, the reduction in the relative price of insurance makes it a more attractive form of compensation for employers to offer in place of higher incomes. Moreover, providing coverage through employers, with premiums based on the employees as a group, creates natural risk pools that limit adverse selection and create cross-subsidies from the healthy to the sick.

These behavioral tendencies affect coverage decisions in a number of ways. First, the employer-based system mediates take-up. Liebman and Zeckhauser (2008) argue that individuals can make more informed take-up decisions through their employer than on their own because of the ways in which their employers inform and encourage their choice. Employers typically offer the choice of only a few selected plans, a restriction in complexity that may encourage take-up (Huberman, Iyengar, and Jiang 2004). Moreover, counseling by employer administrators and human resources departments may alleviate the decision-making difficulties that might otherwise lead to employees' failure to participate. The new law will go even further, allowing large employers to automatically enroll employees in their health insurance plans. Employers may also improve employees' perceptions of the risks associated with uninsurance and frame the costs and benefits of insurance in ways that favor take-up.

The way in which premiums are paid for employer-sponsored plans also may interact with behavioral tendencies to affect participation. For one, individuals may have a hard time accurately understanding the full costs of take-up. Employers typically show only the small portion of the health insurance premium paid directly by the employee as a deduction on the employee's paychecks, effectively hiding the true cost of employer-sponsored health insurance from the employee (the new law requires the full amount of the premium to be disclosed). The nature

of the tax exclusion further obscures the true cost of the insurance. Whether the potential for confusion on this point affects take-up at all, or if it biases individuals toward take-up (their portion of the premium in isolation might seem like a good deal) or away from take-up (without the disclosure of the employer portion, they cannot know how much their direct contribution is discounted) is an empirical matter on which there currently is little evidence. Nonetheless, the implementation of the new disclosure requirement provides an interesting opportunity to test this.

In addition, in practice, the employee's portion of employer-sponsored health insurance comes directly out of the employee's paycheck, and he or she never actually writes a check or pays a bill for the insurance. This likely has at least two implications for take-up relative to more active methods of payment: First, because the automatic payroll deduction makes continued coverage the default state for enrolled employees, there is no practical risk of losing coverage by forgetting to make a payment. Second, reference-dependent preferences may cause individuals to respond more favorably to premium payments that are expressed as forgone compensation than to premium payments expressed as direct costs. Seeing that one's paycheck is smaller by a particular amount may be less painful than writing a check for that amount.

*Nongroup Insurance.* The other set of policies that encourage health insurance coverage in private markets focus on the take-up of nongroup health insurance. The nongroup market is for people such as the unemployed, the self-employed, and those whose employers do not offer health insurance. Existing policies targeted to increasing take-up consist of various tax subsidies. While these subsidies encourage health insurance coverage, take-up in this market is hampered by a number of factors like the lack of risk pooling and higher administrative costs. The ACA creates exchanges in which nongroup policies will be listed and offered to individuals and small employers, and individuals will receive new subsidies for the purchase of these plans.

Here, too, the choice environment interacts with the behavioral tendencies identified earlier. From a behavioral perspective, the most salient feature of the current nongroup market is its complexity. The sheer number and variety of available plans are daunting and will likely lead to the type of choice overload that hinders take-up. The number of dimensions along which plans can vary, including the details of coverage, pricing, and cost sharing, is vast and requires the type of multiattribute choice

that people can have difficulty making consistently and optimally (Hsee et al. 1999; Tversky 1972). Finally, the process of taking up health insurance in this market is self-directed. Although information is available through insurance brokers and other sources, including providers' brochures and websites, objective and targeted advice is not integrated into the enrollment process in the way that it is for employer-sponsored insurance plans. There also is no third party encouraging or forcing a choice, so that procrastination may result in delaying take-up.

The new law provides mechanisms for improving the choice environment in this market, combining an individual health insurance mandate with subsidies for purchasing health insurance on an exchange. A number of open behavioral questions concern how individuals respond to such a mandate. Behavioral economics suggests that the structure and mechanics of the mandate and its enforcement can greatly affect the resulting changes in take-up. Whether penalties for violations of the mandate are structured as losses or forgone gains, whether fines are paid out of pocket or are taken out of tax benefits, and whether they are distant in time, say at tax settlement, or immediate upon failure to comply with the mandate will have differential effects depending on the root cause of failure to take up health insurance. For example, if noncompliance were driven primarily by rational free riding, then a fine imposed on noncompliers might be viewed as a reasonable collection against the resources those individuals will draw from the system if they receive charity care. But if noncompliance is driven by, say, procrastination, then policymakers might view this outcome quite differently, with the fine representing a burden on individuals who are already harmed by the absence of health insurance.

Behavioral economics also suggests that the design of the exchange and the mechanisms for enrollment will be important for the extent to which this suite of policies encourages take-up. The mere creation of a well-regulated and user-friendly exchange may by itself encourage take-up. Exchanges may be able to greatly reduce the complexity of the choice problem by clearly categorizing plans according to benefit characteristics, or even standardizing benefit packages, as was done in Massachusetts. In addition, to the extent that the exchanges are exclusive and work in practice to limit the number of plans from which individuals must choose may also encourage participation.

Another important feature is the payment mechanism: whether individuals cover their share of costs actively, by writing a check, or more

passively, such as through the tax system, might influence take-up by making the costs of coverage more or less salient relative to its benefits. The evidence on automatic enrollment indicates that it could be effective in encouraging participation. This could be done through exchanges, with individuals having to take active steps *not* to enroll, thereby making the failure to obtain coverage the more onerous option. Automatic enrollment could also be expanded through mechanisms similar to those envisioned in current auto-IRA (individual retirement account) proposals.

### *Coverage in Public Programs*

The other major avenue for expanding insurance coverage is directly providing public health insurance. The major public health insurance programs in the United States are Medicaid and CHIP for low-income individuals and children and Medicare for the elderly and disabled. Because enrollment in these programs is not fully automatic, coverage ultimately depends on individual behavior and the psychological factors that may impede take-up.

*Medicaid and CHIP.* Medicaid provides heavily subsidized health insurance for those who qualify, but it requires qualifying individuals to sign up for coverage. The application process can be burdensome, which may discourage take-up. Indeed, people may find the complexity of the application so daunting that they may put off dealing with it indefinitely and remain uninsured.

The low take-up that results from these types of decision inertia suggests a number of policy alternatives. In the case of the ACA, the individual mandate will apply to eligible individuals, which may encourage take-up (although most of these people will not be subject to financial penalties). Another avenue for reform is simply to make it easier for individuals to enroll in Medicaid by simplifying or streamlining applications, a direction many states have already taken. Yet another possible reform would make the enrollment more automatic. For example, automatic enrollment could be based on tax return filings (Dorn et al. 2009). If automatic enrollment is not an option, then policies that encourage third-party assistance may increase take-up. There is some evidence for the effectiveness of such policies from hospitals' experiences in enrolling individuals in Medicaid at the time of service,

although hospitals may encourage enrollment only selectively (Duggan 2000). In addition, incentives could be created for third parties to help people enroll (Aizer 2003, 2007), and the role of tax preparers in increasing take-up rates of the Earned Income Tax Credit suggests that such third-party incentives may increase enrollment in Medicaid and CHIP (Kopczuk and Pop-Eleches 2007).

*Medicare.* In contrast with Medicaid and CHIP, Medicare has far fewer choice points and very high take-up rates. Although there is limited room for increasing enrollment in Medicare, broader lessons may be learned from the features of and enrollment in different parts of the program. Medicare hospital insurance benefits (Part A) are essentially automatic for those reaching the age of enrollment, whereas outpatient care (Part B) is optional. Two features of the Part B enrollment process encourage take-up. First, the default is enrollment in Part B. Beneficiaries must actively opt out if they wish to discontinue coverage. Second, while Part B participants are required to pay premiums for coverage, premiums are typically collected by deducting them from the participants' Social Security payments. As with employer-provided insurance, individuals may be both less likely to miss making payments collected in this way and less averse to making payments in this way relative to paying out-of-pocket. Even the determination of whether high-income individuals are subject to means-related premiums for Part B requires no additional action by the recipients, as Social Security determines that automatically and contacts the affected individuals.

Medicare prescription drug coverage (Part D) has a very different enrollment process. Enrollment requires choosing a prescription drug plan from a large number of privately offered alternatives. The available evidence reveals that this choice is difficult for individuals in a way that may depress take-up (Heiss, McFadden, and Winter 2006; Kling et al. 2012). Although there is a penalty for not signing up for a drug plan when initially eligible, which may help increase take-up, behavioral tendencies may undermine its effect on enrollment. Enrollees pay the penalty only when they enroll in a Part D plan in the future (in the form of higher premiums). Accordingly, if individuals fail to enroll when they are initially eligible because they procrastinate, suffer from decision paralysis, or misunderstand the costs and benefits of the program, then such a penalty may actually further delay enrollment and punish those people who are already paying a high cost for failing to act.

However, salient, immediate penalties may be effective in combating procrastination.

## Conclusion

The success of health insurance reform depends crucially on understanding the behavioral components of coverage and take-up. The take-up process is likely governed by psychology as much as by economics, and public resources can likely be used much more effectively in a behaviorally informed policy design. Behavioral economics has successfully informed policies to increase take-up in other contexts, from retirement savings to food stamp utilization. Applying the psychology of decision making to health insurance coverage sheds light on both the nature of the problem (including barriers to enrollment and socially optimal coverage patterns) and the effectiveness of different policy solutions (including overall take-up and targeting of particular populations).

While the findings of behavioral economics in other domains are clearly relevant, more direct evidence of whether and how these forces operate in the specific context of health insurance is needed. The existing evidence points not only to fruitful directions for future research but also to productive dimensions for policy reform and experimentation. Designing policies that take behavioral factors into account may improve overall coverage and may also better target resources to those populations that would benefit from them the most.

## Endnote

1. We give here an extremely brief overview of the economics of program take-up. For a thorough review of the evidence and theory of take-up in social programs, see Currie (2006). Remler and Glied (2003) review this literature with an eye to specific lessons for health insurance programs.

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